

SUPPORT FOR THE AMENDMENT

Applicants have amended claim 1 as suggested by the examiner. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1, 3-5 and 7-8 will remain active in this application.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a packaged tea beverage.

Catechin containing packaged beverages are sought based on reports of favorable physiological effects. Low catechin concentrations typically found in tea extracts have led to investigations of packaged beverages having an enhanced catechin content. However, increased catechin content has yielded additional problems with astringency and appearance, especially after **storage**. Storage **stability of non-polymer catechins is closely related to the stabilities of color tone and taste** (see Wang et al. J. Agric. Food Chem. 2000, 48, 4227-32 attached). Thus, catechin containing packaged beverages which have good astringency and bitterness characteristics and **storage stability** are sought.

The claimed invention addresses this problem by providing a packaged beverage comprising 0.01 to 1.0 wt. % of non-polymer catechins, quinic acid, **a sweetener consisting essentially of an artificial sweetener**, 0.0001 to 0.5 wt. % of sodium ions and 0.001 to 0.2 wt % of potassium ions, at a pH of 2-6 and a ratio of quinic acid to non-polymer catechins of 0.0001 to 0.5, the content of oxalic acid, if any being limited to be not greater than 0.06 relative to the weight of non-polymer catechins. Applicants have discovered that selection of a sweetener consisting essentially of an artificial sweetener provides for enhanced storage stability of non-polymer catechins as compared with compositions sweetened with a sweetener containing a natural sweetener and an artificial sweetener. Such a packaged beverage is nowhere disclosed or suggested in the cited references.

The rejections of claims 1, 3-5 and 8 under 35 U.S.C. §103(a) over Ohishi et al. U.S. 20030077374 in view of Kuznicki et al. U.S. 5,681,569, Ekanayake et al. U.S. H001628 H and Broz U.S. 2002/0197376 and of claim 7 under 35 U.S.C. §103 (a) as applied above, in further view of Tsai et al. U.S. 4,946,701 and *Teach Me Tea Cha* are respectfully traversed.

None of the cited references disclose or suggest that a packaged beverage containing a sweetener consisting essentially of an artificial sweetener, would provide an improved **storage stability** for non-polymer catechins.

Ohishi et al. now U.S. 7,029,718 describes a beverage containing non-polymer catechins and quinic acid and as noted on page 4 of the official action describes that the sweetener can be an artificial sweetener, exemplifying sucralose in Table 1. Sweeteners are described in paragraph [0041] as including

For example, the sweeteners include sugar, glucose, fructose, isomerized liquid sugar, glycyrrhizin, stevia, aspartame, and oligosaccharide such as fructo-oligosaccharide, galacto-oligosaccharide, and cyclodextrins. As the cyclodextrins, any one of  $\alpha$ -,  $\beta$ -,  $\gamma$ -, branched  $\alpha$ -, branched  $\beta$ - and branched  $\gamma$ -cyclodextrins can be used. It is preferably added in an amount of from 0.05 to 1 wt. %, preferably from 0.05 to 0.5 wt. % to the beverage.

In view of the breath of the disclosure of suitable sweeteners, there would have been no suggestion that by selection of a sweetener consisting essentially of an artificial sweetener, that enhanced storage stability of non-polymer catechins would be realized. The reference **fails** to describe enhanced non-polymer catechin stability by use of a sweetener consisting essentially of an artificial sweetener.

As evidence of the improved storage stability resulting selection of an artificial sweetener, the examiner's attention is again directed to the data appearing on pages 26-27, Table 1, and the Iwasaki declaration, portions of each of which are reproduced below:

[Table 1]

Formulations	Ex. 1	Ex. 3	Ex. 4
Green tea extract A	1.00	1.00	1.00
Green tea extract B	-	-	-
Green tea extract C	-	-	-
Quinic acid	-	-	-
Ascorbic acid	0.03	0.03	0.03
Citric acid	0.2	0.2	0.2
Trisodium citrate	0.1	0.1	0.1
<b>Fruit extract</b>	-	<b>2.00</b>	-
<b>Glucose</b>	-	-	<b>2.00</b>
<b>Artificial sweetener</b>	<b>5.00</b>	<b>3.00</b>	<b>3.00</b>
Sodium chloride	0.05	0.05	0.05
Potassium chloride	0.02	0.02	0.02
Flavor ingredient	0.10	0.10	0.10
Deionized water	Balance	Balance	Balance
Total amount	100	100	100
pH of beverage	3.5	3.5	3.5
Non-polymer catechins (wt%)	0.22	0.22	0.22
Quinic acid/non-polymer catechins ratio	0.020	0.020	0.020
Oxalic acid/non-polymer catechins ratio	0.01	0.01	0.01
Na content in beverage (mg/100 mL)	47	47	47
K content in beverage (mg/100 mL)	44	44	44
Long-term drinkability	A	A	A
Stability of bitterness and astringency	A	A	A
Feeling as the beverage passed down the throat	A	A	A
Color tone stability	A	A	A
Content of non-polymer catechins observed just before storage (wt. %)	0.22	0.22	0.22
Content of non-polymer catechins observed just after storage (wt. %)	0.215	0.110	0.190

The similarities among the three samples containing different types of sweeteners in terms of long term drinkability, stability of bitterness and astringency, feeling of the beverage passed down the throat and color tone stability can not be disputed. The assessment techniques did not detect any differences in performance.

However, the data also demonstrates a greater non-polymer catechin content when the sweetener consisted essentially of an artificial sweetener as compared with sweeteners of a combination of artificial sweetener with fruit juice or glucose. Thus, sweeteners including fruit juice and glucose were demonstrated as inferior to the claimed composition in terms of product storage stability.

Page 13 of the official action the examiner as noted that properties of long-term drinkability, stability of bitterness and astringency, feeling as the beverage passed down the throat and color tone stability was equal for examples 3 and 4 even though the content of non-polymer catechins was different.

Not withstanding the similarities in performance, the content of non-polymer catechins upon storage (e.g. non-polymer catechin stability) is a desirable property unto itself and therefore examples 3 and 4 differ in terms of the content of non-polymer catechins.

Furthermore, applicants' demonstration of enhanced storage stability of non-polymer catechins by selection of a sweetener consisting essentially of an artificial sweetener and potassium ion content is an advantage in one of a spectrum of properties and therefore provides basis for patentability:

When considering whether proffered evidence is commensurate in scope with the claimed invention, Office personnel should not require the applicant to show unexpected results over the entire range of properties possessed by a chemical compound or composition. See, e.g., *In re Chupp*, 816 F.2d 643, 646, 2 USPQ2d 1437, 1439 (Fed. Cir. 1987). Evidence that the compound or composition possesses superior and unexpected properties **in one of a spectrum of common properties** can be sufficient to rebut a *prima facie* case of obviousness. *Id* M.P.E.P. §§2145

Thus, demonstration of enhanced storage stability for non-polymer catechin content is offered in rebuttal to any *prima facie* case of obviousness. Applicants further note that this passage from the M.P.E.P. identifies circumstances where a *prima facie* case of obviousness can be rebutted.

Such improved non-polymer catechin storage stability performance could not have been suggested by the cited references. At best, the references merely suggest inclusion of potassium ions a the composition containing a sweetener, but does not suggest that by selection of a sweetener consisting essentially of an artificial sweetener and a potassium ion content within the claimed range that there would be an enhancement in non-polymer catechin storage performance.

None of the remaining references have been cited for a disclosure of a potassium ion content and accordingly could not provide any expectation of improved stability and color tone stability resulting from selection of a sweetener consisting essentially of an artificial sweetener and a concentration of potassium ions of 0.001 to 0.2 wt.%.

Therefore, the claimed invention would not have been obvious over the cited references and withdrawal of the rejections under 35 U.S.C. §103(a) is respectfully requested.

The rejection of claims 1, 3-5 and 7-8 under 35 U.S.C. §112, second paragraph is respectfully traversed.

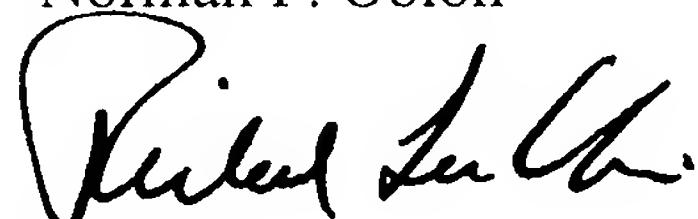
**Claim 1** recites that the packaged beverage contains specific components in specified wt.% amounts. Those of ordinary skill in the art would readily appreciate that the plain meaning of the term wt.% is based on the wt. of the packaged beverage. This interpretation is reinforced by applicants' specification disclosure on page 5, lines 2-3, page 8, lines 5-9 and page 11, lines 13-15 which identify the packaged beverage as containing specific wt.% of each component. While the examiner warns against importation of limitations from the specification into the claim, applicants note that the examiner **must** give the claims the

broadest reasonable interpretation **consistent** with the specification M.P.E.P. §2111. Any interpretation of the claim as being based on the wt. % of the green tea extract would be inconsistent with applicants' specification, such that the examiner's possible interpretation is unreasonable. Thus, since the metes and bounds of the claimed invention are clear to those of ordinary skill in the art, withdrawal of this ground of rejection is respectfully requested. However, in the spirit of advancing prosecution, applicants have now amended claim 1 in the fashion indicated by the examiner on page 13 of the official action as would clarify the issue. Withdrawal of this ground of rejection is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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